

Cultural Perspectives

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Abstract: Since the globalization of education has been increasing dramatically, the need to consider cultural differences will increase dramatically as well. To teach and study successfully in a global network, online learning systems must be designed to anticipate user choices in different cultural settings. This article emphasizes the importance of anticipating cultural perspectives for the "global classroom". At first, the terminology is examined and the different levels analyzed where culture occurs. A number of various dimensions of culture-related differences shows how culture can affect the acceptance and use of online learning systems. Upon this analysis this article suggests design guidelines to make learning systems culturally appropriate and concludes with further proposals.

Introduction

Due to the interactivity and ubiquity of the Internet learning, is possible without space and time barriers. The students and instructors are connected through a digital medium, which replaces the physical, geographically delimited meeting space. Education around the world is becoming strongly networked, and we are beginning to see fundamental changes taking place in the organization of education. We no longer have geographical isolation at the college and university level. The long-term implications are a worldwide network and a real marketplace for university and college level education. This will expand naturally into vocational and adult training as well. Education will become a major export factor between countries (Harasim et al., 1995). But "educational products" aren't adaptable to every country and cultural environment, actually. Culture is even a critical influence factor on the acceptance and use of learning systems. This phenomenon can be analyzed from two different perspectives:

- *Institutional* perspective:

Multinational companies already train their employees via online learning networks globally. E-Learning as a new buzzword for web-based education and the commercializing of it (e.g., business strategies, technologies, applications, etc.) is a growing market. Education will be exported between countries with even the most different cultures. To be successful globally, one must consider the cultural differences and offer culture-related adaptable solutions.

- *Learning perspective:*

The Internet and computer-mediated communication offer educators unique opportunities and challenges. Students can be provided access to learning networks anytime and anywhere. However, cultural factors will play a bigger role in the global context. Learners study collaboratively in multicultural teams. Instructors from different nations teach and facilitate students from all over the world. What could be the possible influence of cultural differences on the acceptance and use of online learning environments?

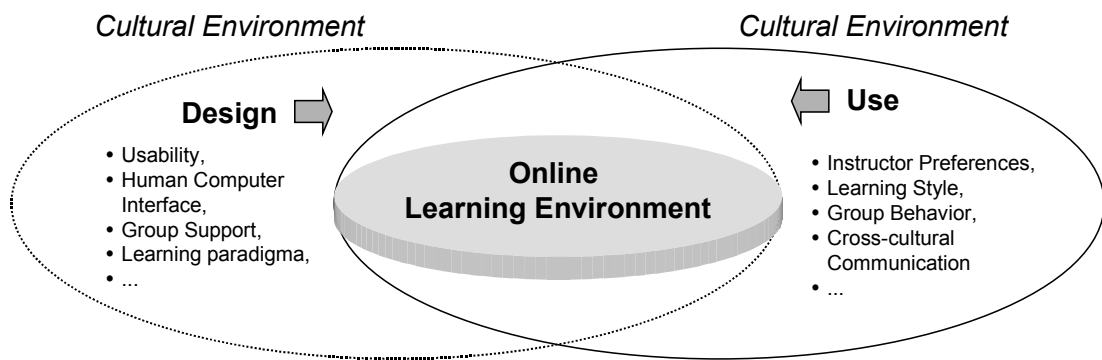
Despite these potentials of web-based education and the importance of cultural factors, there is a paucity of research that systematically analyzes culture-related variables to suggest design guidelines for culture-related, flexible, online learning environments. This paper focuses on these issues by analyzing the cultural perspectives of online education.

Definitions

What do we mean by culture and its characteristic variables? Culture can be defined as "the beliefs, value systems, norms, mores, myths, and structural elements of a given organization, tribe, or society" (Watson, Ho & Raman, 1994). Individuals and groups carry the culture which manifests itself in how a group interprets and reacts to its environment (Collis 1999). The individual and organizational behavior "is affected by the values and attitudes that they hold and the societal norms that surround them. When values are widely shared by a group of people, they are provided with a common mechanism by which they can share understandings and interpretations of their world, and establish what is important and clarify priorities" (Wild & Henderson, 1997).

Culture has its impact on online education and the behavior of the involved participants. As the following figure illustrates, the cultural environment affects online learning environments from two perspectives:

Fig. 1.: Cultural Environments



- *Design, development of the system:*

Software systems are developed in a certain cultural environment based on norms, values, and beliefs which influence the design of the systems. Whereas in one culture the educational product is very successful, for another culture the system is not appropriate. Learning software can't be transferred isolated without its culture-related roots and the cultural context in which it is produced (Watson, Ho, & Raman, 1994).

- *Acceptance and use of the system:*

On the other side, instructors and students are influenced by their cultural environments. Individuals from different cultures vary in terms of their communication and group behaviors, affecting the acceptance and use of online learning systems, as well. One can differentiate between the communication of an individual (teacher, student) with the system and the communication within a group of students and teachers. To analyze the communication behavior in such collaborative learning networks on the Web, two communication disciplines are involved:

- *Computer-mediated communication* that focuses on the specifics of online communication via synchronous and asynchronous communication channels.
- *Cross-cultural communication* that investigates the possible cross-culture differences in communication behaviors. Hofstede surveyed over 116,000 employees in 40 countries who all worked for a single multinational corporation (Hofstede, 1991). His data base confirmed that national culture had a major impact on employees' work-related values and attitudes (more than age, sex, profession, or position in the organization).

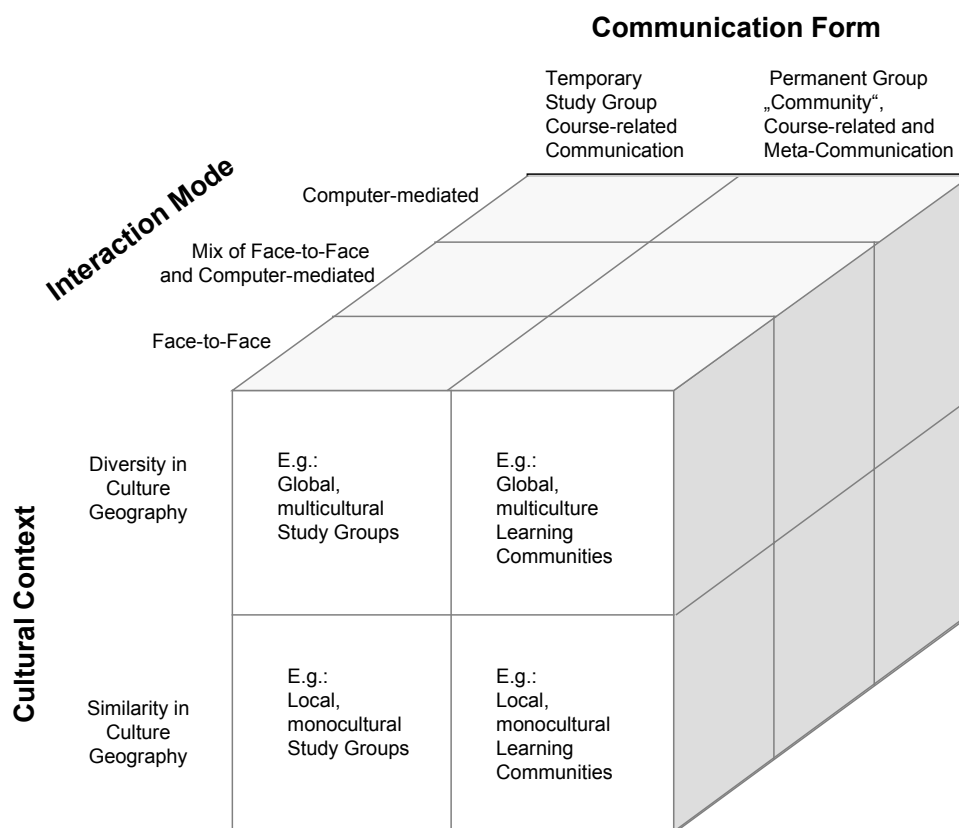
While there is a wealth of research on computer-mediated communication and research on cross-cultural communication, there is a paucity of research on cross-

cultural computer-mediated communication. What could be the possible influence of cultural differences on the communication behaviors of online learning study groups or learning community members?

As Figure 2 shows, three dimensions define the communication mode in a learning environment:

- *Cultural context*: global, multicultural vs. local, monocultural groups.
- *Interaction mode*: determines the degree of computer-mediated communication.
- *Communication form*: Temporary study group (e.g., no common history, no common future, no common values and beliefs) communicating about course-related topics vs. permanent groups building a community (e.g., common history, common future, common values and beliefs) and furthermore communicating on a meta-level (to reflect community and learning processes).

Fig. 2.: Cultural Environments



Of course, the highest influence of culture occurs at multicultural study groups and learning communities. Furthermore, if the interaction mode is completely computer-mediated cross-cultural computer-mediated communication is focused strongly.

Cultural Levels

Culture as an affecting factor of the acceptance, use, and impact of Online Learning Systems appears at different levels (Collis, 1999): Society, Organizations, Group, Individual, and the Discipline as the subject area shown in Table 1.

Table 1: Cultural Levels

Cultural Level	Descriptions
Society	<ul style="list-style-type: none"> - General culture of the society, formative societal culture as an ethnic group (e.g. religion, language, values, norms, attitudes). - National culture: One major dimension of cultural variability is individualism-collectivism (Hofstede, 1991). Whereas in individualistic cultures, the needs, values, and goals of the individual take precedence over the needs, values and goals of the group, it is the opposite in collectivist cultures. Individuals from individualistic cultures tend to be less concerned with self-categorizing, are less-influenced by group membership, have greater skills in entering and leaving new groups, and engage in more open and precise communication than individuals from collectivist cultures. In addition, the willingness to respond to ambiguous messages has been shown to be higher among members of individualistic cultures than among members of collectivist cultures.
Organization	<ul style="list-style-type: none"> - Organizational culture: the culture of the organization in which learning takes place (often more than one culture, more sub-cultures). - Learning culture in the organization: openness, incentives for learning. - Type of setting: Informal Learning at workplace, requested by the employer, etc.
Group	<ul style="list-style-type: none"> - Group Culture: group norms, values, attitudes. - Type of Group: work, study, or peer group, dispersed, multicultural group, local group. - "Community" building: common interests, values, mutual trust. Problems facing a multicultural, dispersed team or community: <ul style="list-style-type: none"> - <i>Communication problems</i> are clearly a risk when team members do not all speak the same native language; even if they do, regional or national slang, combined with inter-company or industry jargon can exacerbate matters. - <i>Attitudinal and perceptual problems</i> can be introduced by differing perspectives on the same issues due to national cultures. - <i>Harnessing advantages</i> of cultural diversity is another difficulty; some of these possible advantages include more group creativity, the necessary condition of increased concentration and focus, and less chance of "group thinking". - <i>Lack of cohesion</i> can be introduced when team members have no common vision of the team's goals, and are unable to separate themselves from their individual interests in favor of those of the team. Trust building is more difficult to create in a virtual setting. - <i>Time and distance</i> between group members introduce further complexity into what may already be a difficult situation to manage, particularly when cultures are involved which place high value on face-to-face communication as opposed to written communication.
Individual	<ul style="list-style-type: none"> - Individuals - the instructors and learners - carry the culture, influenced by society, group norms. - Personal characteristics, attitudes towards information technology and computer mediated communication, one's individual preferred learning style. - Previous cultural exposure is an important factor influencing communication behavior. People with high confidence in the knowledge of other cultures tend to be more willing to explore cultural topics. The social dialogue in turn might help develop trust in team, at least in the eyes of the culturally experienced person.

Cultural Level	Descriptions
Discipline/Domain	- Subject-related culture: Differences in acceptance of computer-mediated communication within courses, e.g., more appropriate for social sciences and less for technical sciences (Sheddick & Woolgar).

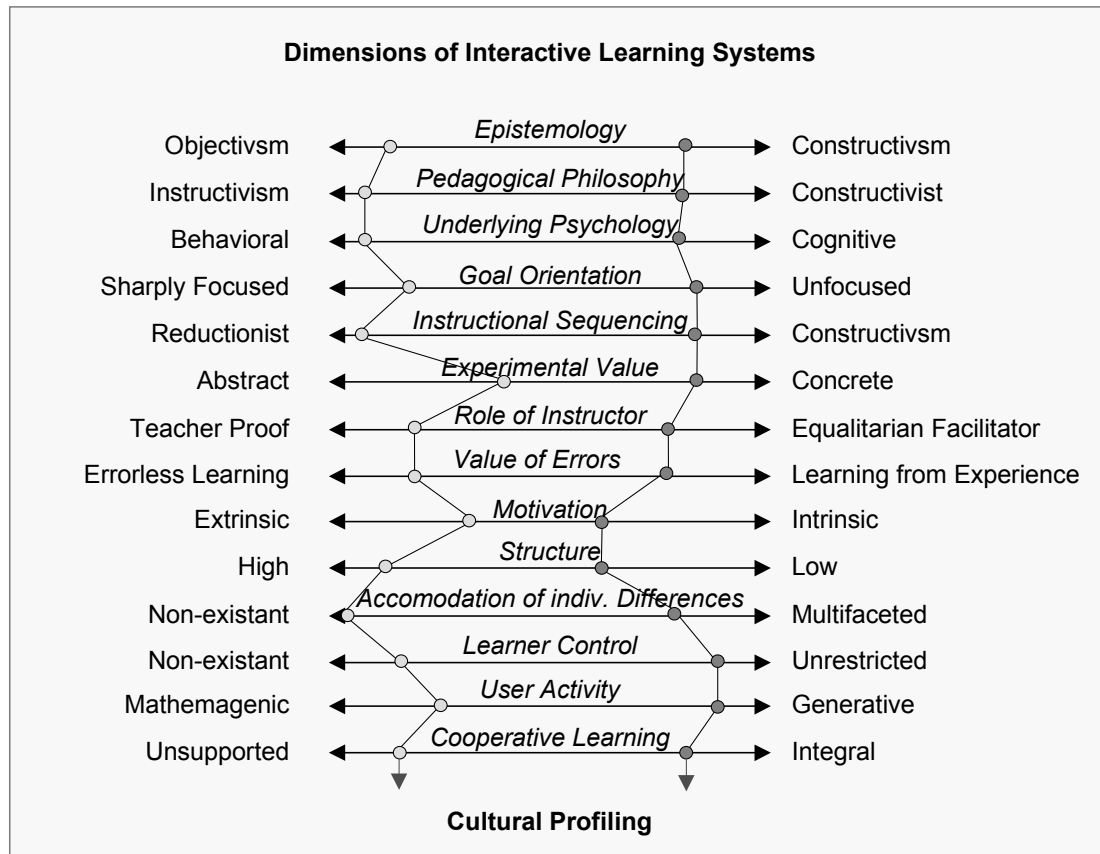
Dimensions of culture-related Differences

In what ways can the different cultural levels affect the acceptance and use of online learning systems? As mentioned before, although the cultural influence is evident, there seems to be little research yet that systematically analyzes culture-related guidelines for the development and design of web-based learning systems. One research stream concentrates on cultural design approaches which are based on Pedagogic Models of interactive learning systems extended by cultural dimensions. In literature, many Pedagogic Models of interactive instructional design consisting of different dimensions which should be considered for the instructional design of a system can be noted (Collis, 1999). For example, Collis, Vingerhoets & Moonen (1997) identified 19 critical dimensions: 4 related to time, 5 related to the content of the course, 1 related to flexibility in expected prerequisites, 4 related to instructional approach and resources, and 5 related to course delivery and logistics. The ("flexibility-")dimensions express how fixed or flexible the course design is. Higher flexibility provides that interactive learning systems are better adaptable to different cultural preferences.

Another well-known model represents the 14 dimensions of interactive learning of Reeves (Reeves, 1992). It proposes a multidimensional approach which reflects the contrast between objectivism and constructivism for the positioning and the judgement of interactive learning systems. Henderson has presented a cultural Pedagogic Model that is one of the most comprehensive analyses and based on Reeves' 14 dimensions. Henderson added the idea of cultural profiling and of integrating multiple cultural perspectives (Henderson, 1996), so that various cultures preserve their identities and can adapt the system to their cultural environment and not vice versa. As Figure 3 demonstrates, for different cultural groups contrary endpoints of the dimensions could be appropriate. The cultural profile may also vary within the timeline of an instructional setting itself. For example, whereas at the beginning an instructivist approach is chosen to teach novices, the course continues with a constructivist pedagogy for the more experienced students. This

accommodation to the learners' progress reflects the various learning theory paradigms: From cognitive behaviorism towards the adoption of various features of constructivism.

Fig. 3.: Cultural Profiling



In addition to the work of Reeves and Henderson, other sets of dimensions in interactive learning systems sensitive to culture-related differences have been analyzed by Collis (Collis, 1999) shown in Table 2.

Table 2: Cultural Dimensions

Dimensions	Cultural Sensitivity
Group size, member proximity, task type, in relation to software systems to support group collaboration	Egalitarianism, non-critical acceptance of ideas, decoupling thoughts and their provider, and leveling of status guide Western designers of group-support systems; such assumptions are different for Asian cultures (Watson, Ho & Raman, 1994)
Pedagogic philosophy, subject-area disciplines, deep and surface learning, horizontal and vertical communication,	A deficit model (ie, the learner begins with a deficiency in terms of lack of pre-defined knowledge) vs a social-participative model (ie, the learner learns through communicative interaction with others) vary by national and institutional culture and are also discipline-related; "Surface" learning relates to a deficit model while "deep" learning to a social-participative model; Horizontal (communication between students) vs Vertical communication (between instructor and student(s)) vary in appropriateness in different cultures (Sheddick & Woolgar, 1994; Jin & Cortazzi, 1998).
Language, visual aspects of the user interface	Language also involves differences in acceptance tone and style of communication, and in understanding of inferences and

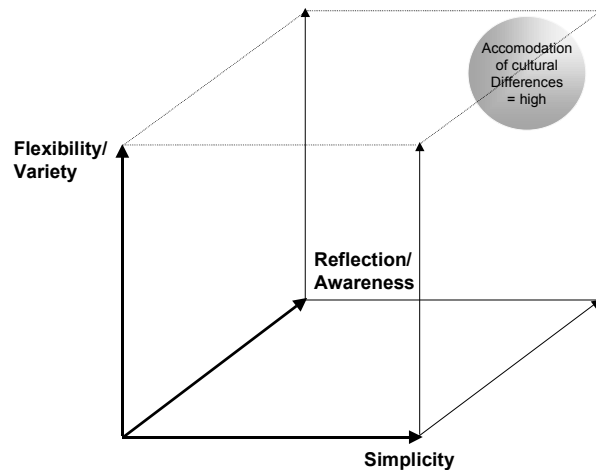
Dimensions	Cultural Sensitivity
	neologisms; Icon recognition and response to the design and layout of the user interface varies among cultural groups (Griffiths, et. al 1994; Mirshafiei, 1994).
Infrastructure differences, access differences, technology-skill differences	Groups of potential users differ in terms of the network and support infrastructure available to them and also in the amount of competence and comfort they have with technology use (NODE 1998).
Responsibilities of learners, instructors; teaching-styles, student behaviors	Cultural differences in perception of appropriate allocation of responsibilities between students and instructors; in appropriate teaching styles and forms of student behavior (Jin & Cortazzi 1998).
Human-computer interaction	Cultures differ on willingness to accommodate new technologies, acceptance of trial-and-error in terms of computer use, differences in expectations for technical support, preferences for precision vs browsing, preferences for internal vs system/instructor control, differences in tolerance of communication overlaps and interrupts (Nakakoji 1993).
Institutional aspects such as requirements for examinations, time-tables for course participation, prerequisites for courses, accreditation requirements, locations for course participation	Operational practices become associated with institutional culture, "doing things differently" becomes unacceptable or suspect in terms of quality (Borremans 1996; Collis 1998).

Design Guidelines for culture-related Flexibility in Online Learning Environments

Culture as an affecting factor of the acceptance, use, and impact of web-based learning systems appears at different levels and in various dimensions of cultural-related differences. Therefore, the critical issue for the design of such web-based systems is how such a variety of culture-related dimensions and variables can be reflected. Collis argues (Collis, 1999) that "at the institutional, instructor, or even student level, a WWW-based course-support system must be designed to anticipate user choices about a large number of variables, each of which have different optimal values in different cultural settings" (p. 6). The key issue for her is to design a system for flexibility from the very beginning.

Based on her design guidelines for web-based course support sites and systems the following three categories are introduced (c. f. 4): flexibility/variety, simplicity and reflection/awareness. The purpose is to reach the highest degree of flexibility and accommodation to anticipate cultural differences.

Fig. 4.: General Issues for Design Guidelines



Flexibility/Variety:

1. Plan for flexibility and adaptation: that must be the overall goal.
2. Design for organizational flexibility: e.g. courses of different lengths, examination or assessment requirements should be possible.
3. Offer a "technological tool set" of different communication channels: e.g., provide asynchronous as well as synchronous communication tools. The users determine the style and use of channels. Design for human-human communication, not human-computer interaction.
4. Offer a "methodical tool set", so that a variety of different roles for both instructors and students and a variety of types of learning experiences can be implemented.
5. Offer a "resource tool set", so that a variety of combinations of supplementary media and resources can be used in the instructional setting (e.g., multimedia materials, links to external web-based materials).

Simplicity:

1. Design for minimal technical equipment and user levels.
2. Design the text fixed on the screen to a minimum: use a minimum of graphic and iconic elements and provide context-sensitive help.
3. Keep it simple for the students: many students might have problems with online access; books and print materials are better for primary study materials in terms of portability, ease of use and cultural fit (Collis, 1999).
4. Limit the information and communication that is preset in the system. Supplement study materials, to integrate and manage student study activities. The

sites should be filled by the instructor and students in their own ways as the course proceeds.

5. Keep it simple for the instructors because they have little or no time in creating electronic course material.

Reflection/Awareness

1. Be aware of cultural differences. For example, do not guess more communication or student activity is better than less; you must reflect cultural considerations.
2. Set rules and standards for good netiquette. There will need to be some discussions about netiquette and possible misunderstandings. Encourage meta-communication about anything that is causing the experience to be less valuable or enjoyable for all than it might be. The most successful online courses include some *meta-communication* to discuss the content and process of the course and offer suggestions for changes. Rather than follow a fixed syllabus and schedule, there is more fluidity, learners introduce new questions and problems, and the group can explore those areas in which they are interested.
3. Reflect the need for rhythms (e.g., the workweek and the weekend, the semester and the vacation), boundaries and containers for interaction (Johnson & Johnson, 1991). The natural rhythms of interaction should be reflected in the establishment of some predictable regularities, such as activities or assignments. "Containers" and their "boundaries" for interaction can be established by a combination of software features, facilitator actions, and instructional designs or metaphors.

Conclusion

The globalization of education is increasing rapidly: Students attend courses from all over the world, employees work and study globally in multinational companies. The need to anticipate cultural differences in an increasingly multicultural learning environment will also increase dramatically. Despite the importance of culture-related flexibility for the instructional design, there can be observed a lack of research. Therefore, this article responds to this need. I have looked at cultural perspectives related to the acceptance and use of web-based learning environments. Culture is a complex construct occurring at several cultural levels and indicated through a variety of dimensions and variables. Therefore, the most critical issue seems to be the culture-related flexibility for the design of web-based learning environments to reflect such a variety of cultural differences. But furthermore, it is

necessary to improve the cultural sensitivity in designing and using online learning environments. As Collis (Collis, 1999) concludes: "... increased flexibility is only a necessary but not sufficient base for better cultural sensitivity in our courses. That sensitivity needs to come from better skills and more wisdom in terms of listening to and observing persons from cultures outside our own. This is a human activity, not a technical issue" (p. 12).

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